REMARKS

Claims 1-7 are pending and rejected in this application.

Claims 1-4, 6, and 7 are amended hereby. Support for such amendments can be found, e.g., in Figs. 1, 2, and 5 of the present specification.

The Examiner is thanked for the courtesies extended in the telephone interviews of April 15, 2003, and July 15, 2003, in which claims 1-4 were discussed with respect to both their readability and prior art issues. The amending of claims 1-4 to improve their readability and to ensure that they define over the currently applied reference (Kawakami et al) as well as U.S. Patent Number 5,828,488 (Fig. 14; Parts 110, 113) was addressed at length. New claim language was generally agreed upon that should place the claims in both allowable form and in condition for allowance, pending an updated search, of course. Claims 1-4, as amended, incorporate such agreed-upon claim language.

In the interview of July 16, 2003, it was also agreed that the Examiner would call Applicants should any further issues arise prior to issuing another Office Action, if so needed.

Responsive to the objection to claims 3 and 7 based upon informalities, Applicants have amended claim 3, keeping in mind the comments offered by the Examiner. Applicants submit that claims 3 and 7 are now in allowable form and hereby respectfully request that the objection thereto based upon informalities be withdrawn.

Responsive to the rejection of claims 1-7 under 35 USC § 112, second paragraph, Applicants have amended claims 1-4, keeping in mind

the comments offered by the Examiner. Applicants submit that claims 1-7 are now in allowable form and hereby respectfully request that the rejection thereof based upon 35 USC § 112, second paragraph, be withdrawn.

Responsive to the rejection of claims 1-7 under 35 USC § 102 (b) as being anticipated by "Fabrication and Observation of 3D Photonic Crystals Composed of Si/SiO_2 with Sub-Micrometer Periods" (Kawakami et al), Applicants have amended claims 1-4 and submit that claims 1-7 are now in condition for allowance.

Claim 1, as amended, recites in part:

> a shape...of each said layer at least one of having a regularly undulated structure parallel to a first plane; being uniform parallel to a second plane, said second plane being orthogonal to said first plane; and having a regularly or non-regularly undulated structure which has a larger pitch than parallel to said first plane...

Applicants submit that such an invention is neither taught, disclosed, nor suggested by Kawakami et al or any of the other cited references, alone or in combination.

Amended claims 3 and 4 recite in part:

> a step of etching a substrate upon which said laminating is to occur, said etching of said substrate producing at least one of a single set of regularly arranged, coextending grooves, a single set of regularly arranged, coextending projections, a single set of thin and long projections, and a single set of thin and long grooves.

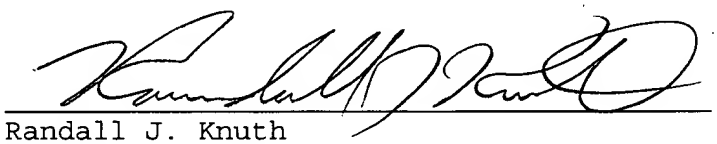
Applicants submit that such an invention is neither taught, disclosed, nor suggested by Kawakami et al or any of the other cited references, alone or in combination.

Claims 1, 3, and 4 have been amended so as to incorporate the language initially discussed with the Examiner during the interview of April 15, 2003. It was agreed with the Examiner that such language would likely place the claims in condition for allowance.

For all the foregoing reasons, Applicants submit that claims 1-7 are now in condition for allowance and hereby respectfully request that the rejection based upon the journal article by Kawakami et al be withdrawn.

If the Examiner has any questions or comments that would speed prosecution of this case, the Examiner is invited to call the undersigned at 260/485-6001.

Respectfully submitted,



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Encs: Amendments to the Claims
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450, on: July 16, 2003.

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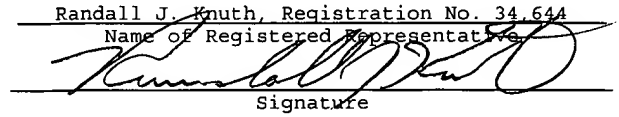

Signature

July 16, 2003
Date

Amendments to the Claims

1 (currently amended): A polarizer comprising:

a multilayered structure along a z-axis ~~consisting of~~ two or more transparent ~~bodies which have~~ layers, at least two said layers having different refractive ~~indexes,~~ indicies relative to one another,

each said layer having a shape, ~~wherein the shape of layers,~~ each ~~of which is~~ said layer being a unit of lamination ~~of each transparent body~~, the shape of each said layer at least one of ~~has~~ having a regularly undulated structure ~~along an x-axis, is~~ parallel to a first plane; being uniform ~~along a y-axis,~~ parallel to a second plane, said second plane being orthogonal to said first plane; and ~~has~~ having a regularly or non-regularly undulated structure which has a larger pitch than ~~along the x-axis~~ parallel to said first plane,

the lamination along the z-axis repeating the shape and being configured for acting against the light such that the light thereby has a component whose incidence direction is not zero from the z-axis in the three-dimensional orthogonal coordinates (x, y, z) associated with the polarizer.

2 (currently amended): A ~~polarized~~ polarizer according to claim 1, wherein the polarizer has a first refractive medium layer containing at least one of Si and TiO_2 as a main component and a second refractive medium layer containing SiO_2 as a main component.

3 (currently amended): A method for producing a polarizer comprising the steps of:

laminating a ~~more~~ first refractive medium layer and a ~~less~~ second refractive medium layer with a regularly repeating shape, said

laminating performed by a film-forming method at least partly including ~~the~~ a step of ~~dry~~ etching ~~on~~ a substrate upon which said laminating is to occur, ~~which has~~ said etching of said substrate producing at least one of a single set of regularly arranged, coextending grooves, ~~and~~ a single set of regularly arranged, coextending ~~linear~~ projections, a single set of thin and long projections, and a single set of thin and long grooves.

4 (currently amended): A method of producing a polarizer, comprising the steps of:

laminating a first refractive medium layer which contains at least one of Si and TiO_2 as a main component and a second refractive medium layer which contains SiO_2 as a main component with a regularly repeating shape, said laminating performed by a film-forming method at least partly including a step of dry etching ~~on~~ a substrate upon which said laminating is to occur, said ~~dry~~ etching of said substrate producing ~~having~~ at least one of a single set of regularly arranged, coextending grooves, a single set of regularly arranged, coextending ~~linear~~ projections, [or] a single set of thin and long projections, and a single set of thin and long grooves.

5 (previously added): A polarizer according to claim 1, wherein the shape of layers at least one of has a regularly undulated structure along the x-axis and is uniform along a y-axis.

6 (currently amended): A polarizer according to claim 1, wherein said first refractive medium layer has a first index of refraction, said second refractive medium layer has a second index of refraction,

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said first index of refraction being greater than said second index of refraction.

7 (currently amended): A method for producing a polarizer according to claim 3, wherein said substrate has at least one of said thin and long projections and said thin and long grooves.